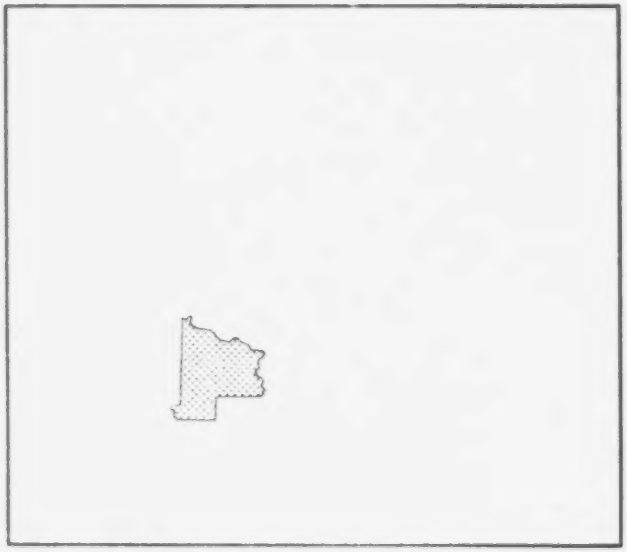
FEMA 1.209:1 80078

FLOOD INSURANCE STUDY

GUNNISON COUNTY, COLORADO
UNINCORPORATED AREAS



SEPTEMBER 29,1989

Federal Emergency Management Agency

COMMUNITY NUMBER - 080078

NOTICE TO
FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study may not contain all data available within the repository. It is advisable to contact the community repository for any additional data.

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FLOOD INSURANCE STUDY
GUNNISON COUNTY, COLORADO (UNINCORPORATED AREAS)

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study investigates the existence and severity of flood hazards in the unincorporated areas of Gunnison County, Colorado, and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This Flood Insurance Study will be used to establish actuarial flood insurance rates and assist the community in their efforts to promote sound floodplain management. Minimum floodplain management requirements for participation in the National Flood Insurance Program (NFIP) are set forth in the Code of Federal Regulations at 44 CFR, 60.3.

This Flood Insurance Study was prepared by compiling pertinent information for the flood hazard areas in Gunnison County (unincorporated areas), Colorado, from existing technical and/or scientific data originally prepared by others for purposes other than the NFIP. The existing data were reviewed by the Federal Emergency Management Agency (FEMA) prior to its use in the development of this Flood Insurance Study to ensure compliance with NFIP regulations.

In some states or communities, floodplain management criteria or regulations may exist that are more restrictive or comprehensive than those on which these federally-supported studies are based. In such cases, the more restrictive criteria take precedence, and the State (or other jurisdictional agency) will be able to explain them.

1.2 Authority and Acknowledgements

The sources of authority for this Flood Insurance Study are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

The hydrologic and hydraulic analyses for this Flood Insurance Study were performed by the U.S. Army Corps of Engineers (COE), Sacramento District, as reported in Flood Hazard Information Report, North Fork Gunnison River, Hotchkiss to Somerset, Colorado, 1980 (Reference 1) and Engineering Consultants, Inc., as reported in Floodplain Information Report, Gunnison River/Tomichi Creek, Gunnison, Colorado, 1976 (Reference 2).

1.3 Coordination

On September 27, 1988, the results of this Flood Insurance Study were reviewed and accepted at a final coordination meeting attended by representatives of the community and FEMA.

2.0 AREA STUDIED

2.1 Scope of Study

This Flood Insurance Study covers the unincorporated areas of Gunnison County, Colorado. The areas of study are shown on the Vicinity Map (Figure 1).

The areas studied by detailed methods were selected based upon the extent and validity of available existing hydrologic and hydraulic data.

The following streams were studied by detailed methods throughout the unincorporated areas of the county:

- Tomichi Creek was studied from its confluence with the Gunnison River to a point 500 feet downstream from the New Mexico Principal Meridian, a reach of approximately 4.9 miles.

- The Gunnison River was studied from the McCabe Bridge, located approximately 1.6 miles downstream from its confluence with the Tomichi Creek, to the Colorado Highway 135 bridge over Gunnison River, a reach of approximately 7.6 miles.

- North Fork Gunnison River was studied from the Delta County border, located approximately 1 mile upstream of the Hubbard Creek confluence, to a point approximately 1,625 feet upstream of the Somerset Bridge, a reach of approximately 2.4 miles.

Approximate methods of analysis were used to study all the remaining areas having a potential flood hazard that did not have available detailed scientific or technical data.

Areas not studied include Gunnison National Forest, Uncompahgre National Forest, White River National Forest, Curecanti National Recreation Area, City of Gunnison, City of Mount Crested Butte, and City of Crested Butte.

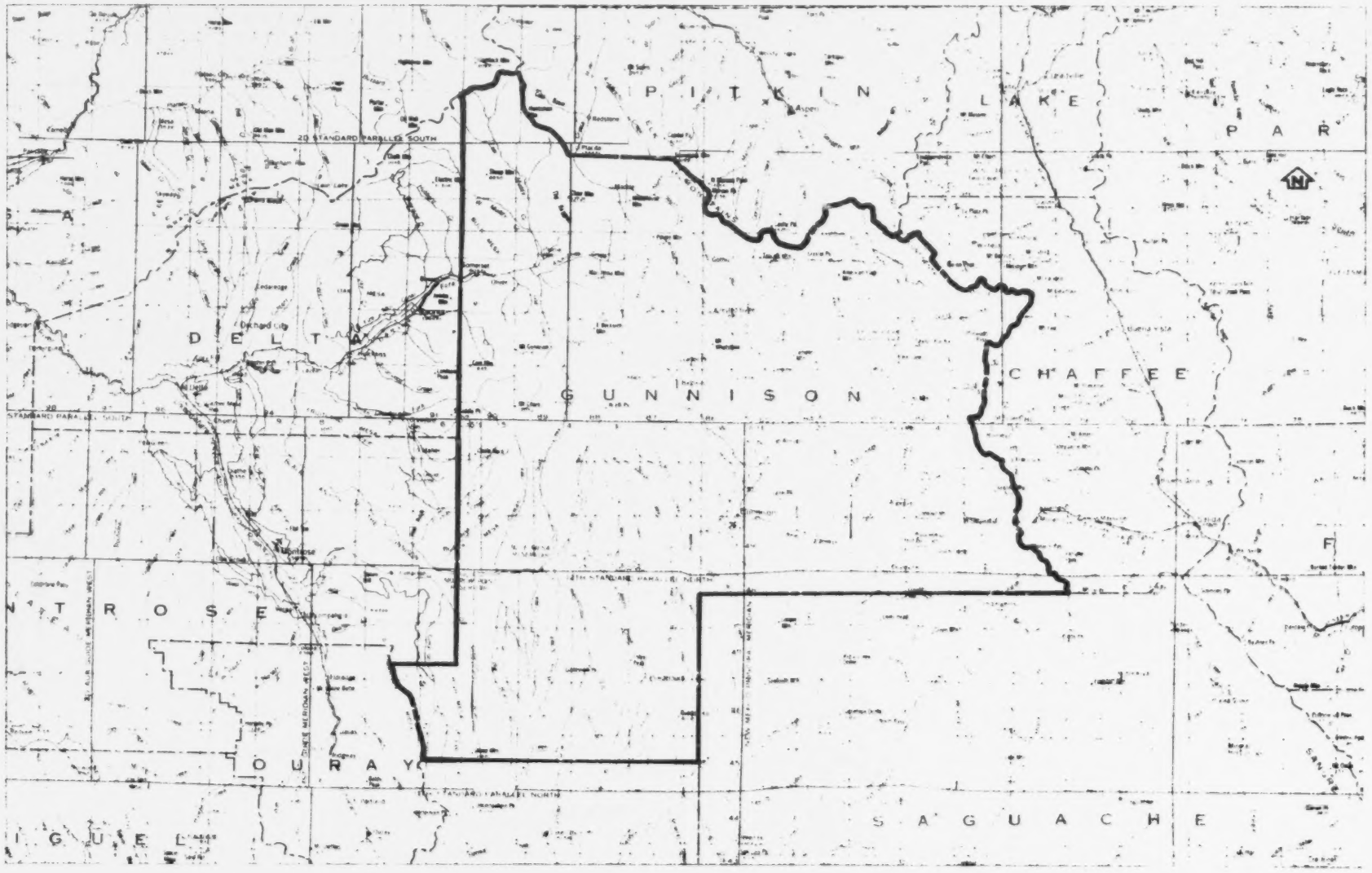

FIGURE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

GUNNISON COUNTY, CO
(UNINCORPORATED AREAS)

APPROXIMATE SCALE

16 0 16 32 48 MILES

VICINITY MAP

2.2 Community Description

Gunnison County is located in southwestern Colorado and is bordered by Saguache and Hinsdale Counties to the south; Chaffee County to the east; Pitkin and Mesa Counties to the north; and Delta, Montrose, and Ouray Counties to the west.

The Gunnison River, formed by the confluence of the Taylor and East Rivers at Almont, has a well-developed stream pattern with inflowing tributaries from different directions. The larger of these tributaries contributing to the flooding problems in the study area include Ohio and Tomichi Creeks.

The North Fork Gunnison River is formed by the confluence of Muddy and Anthracite Creeks near Paonia Dam. From its source to its mouth near Lazear, the stream flows approximately 30 miles on a southwesterly course.

The average altitude of the Gunnison River Basin above the study area is relatively high, ranging in elevation from approximately 7,600 feet above mean sea level at the Tomichi Creek confluence with the Gunnison River to over 14,000 feet at the high peaks of the Continental Divide.

The terrain of the basin is mostly mountainous with some broad plains in the stream valleys between hills. These plains vary in width and are in excess of 2 miles at certain locations. Alluvial lands on the floodplains along streams consist primarily of material recently deposited by the streams. The texture is widely variable and commonly has very cobbly or stony areas interspersed throughout.

Predominant vegetation consists of pine, fir, and spruce in the higher portions of the drainage area, while sagebrush and other low-growing shrubs exist in the lower portions. Thick stands of cottonwood thrive along the river.

Summers are cool in the study area with average high temperatures of 80°F. Temperatures for summer nights usually drop below 50°F. Temperatures have ranged from -47°F in the winter to 96°F in the summer. The mean annual maximum temperature is 52°F, and the mean annual minimum temperature is 17.5°F.

The climate of the study area includes low precipitation, low humidity, abundant sunshine, a wide daily temperature range, and generally low winds. The surrounding mountains act as a barrier, preventing the northern cold air or eastern storms from penetrating the Upper Gunnison River Valley.

A prominent college in Gunnison, Colorado, is Western State College, with an enrollment of nearly 2,300 students. Retail trade and services, including most of the tourist-related services, provide the largest number of jobs in the area. Agricultural employment is on the decline, with mining limited to a few small operations, and the tourist industry expected to grow.

A number of irrigation ditches convey water across natural drainage boundaries into adjacent basins. The Larkspur Ditch conveys water from the headwaters of the Tomichi Creek in the Colorado River Basin across the Continental Divide at Marshall Pass and into the Poncha Creek Basin.

According to the U.S. Bureau of the Census, the population of Gunnison County increased from 5,477 in 1960 to 10,689 in 1980 with the Crested Butte division experiencing the largest growth (Reference 3).

2.3 Principal Flood Problems

While slopes are steeper in the upper drainage basins, the dense vegetation in these areas serves to reduce rainfall runoff. A greater percentage of runoff is permitted by the sparse vegetation of the foothills and pastureland at the lower elevations. Consequently, the majority of the flood problems in the study area are caused by rapid snowmelt. This type of flooding has a long duration runoff, which results in a continuous rise in water level.

Flood potential also exists from long- and short-duration rainstorms. Floods from short-duration rainstorms are characterized by high peaks and small volumes. The potential for the most severe flooding is created by the combination of rapid snowmelt with long-duration rainfall.

Flooding also occurs during the winter months from ice jamming. This is confined to the northwestern area of the county.

Detailed information on floods before the turn of the century is very limited. Information on historical flooding is based on newspaper accounts and interviews with longtime residents of the area. Generally, high flows are contained in-channel, and extensive overbank flooding is infrequent. Large floods occurred in Gunnison on the Gunnison River in 1917, 1918, 1920, 1921, 1957, 1984, and 1985. These floods have caused major damage by disrupting highway and railroad traffic and communication services, drowning livestock, and destroying agricultural lands, roads, bridges, and buildings.

Gage readings at the Gunnison River near Somerset Gage, Hydrologic Unit 14020004 (period of record: 1897-1933, 1934 to present day), and North Fork near Paona Gage (period of record: 1922 to 1932), indicate flood damage along the North Fork Gunnison River and the Gunnison River in 1928, 1929, 1932, 1957, 1973, 1974, 1984, and 1985.

Generally speaking, most streams in Western Colorado have experienced high peak-runoff rates during years of high temperature, combined with snowpacks containing high water content, usually occurring in May. An exception to this has been in the San Juan Mountains, where rainstorms have produced peak flows.

Flooding problems near the City of Gunnison are aggravated by the restriction of drainage channels by vegetation growth and accumulated debris.

2.4 Flood Protection Measures

During the fall of 1970 and summer of 1971, the U.S. Bureau of Reclamation, in cooperation with the COE, completed a clearing and snag removal program. This program was primarily confined to the area above the water level of the Blue Mesa Reservoir and Tomichi Creek.

The construction of the Taylor Park Reservoir near Taylor Park (completed in September 1937) has reduced the peak flows approximately 28 percent near Taylor Park on the Gunnison River, although its primary function is to supply water for irrigation purposes.

Paonia Dam and Reservoir, a multiple-purpose project built by the U.S. Water and Power Resources Service on Muddy Creek, just upstream from the junction of Muddy Creek and Anthracite Creek, became operational in 1961. Affording 21,000 acre-feet of storage capacity, the facility is operated by the North Fork Water Conservancy District to provide flood control during periods of high snowmelt runoff.

Other than the aforementioned structures, there is very little natural or man-made flood protection within Gunnison County.

3.0 ENGINEERING METHODS

For the flooding sources studied by detailed methods in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this Flood Insurance Study. Flood events of a magnitude which are expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, and 500-year period (recurrence interval) have been selected as having special significance

for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10-, 2-, 1-, and 0.2-percent chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long-term average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than one year are considered. For example, the risk of having a flood which equals or exceeds the 100-year flood (1 percent chance of annual exceedence) in any 50-year period is approximately 40 percent (4 in 10), and, for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this Flood Insurance Study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for each flooding source studied by detailed methods affecting the community.

Peak discharges for the various recurrence intervals for Tomichi Creek and the Gunnison River were taken from data prepared by Engineering Consultants, Inc. for the Gunnison River Basin near Gunnison, Colorado (Reference 2). Streamflow data obtained from 51 measuring stations located within the Gunnison River Basin and in nearby basins were used in this analysis. The source of the data is the official U.S. Geological Survey (USGS) Water Supply Papers (Reference 4). The peak flow figures for the four different frequencies used in the analysis of the two streams mentioned previously were those obtained from the Regional Log-Pearson Type III Analyses (Reference 5).

Peak discharges for the various recurrence intervals for North Fork Gunnison River were taken from data prepared by the COE, Sacramento District. A flow-frequency analysis was made for four index points on the North Fork Gunnison River, with the upstream gaging station being the USGS gaging station near Somerset (Hydrologic Unit 14020004; period of record: 1897 to 1933, 1934 to present day), and downstream points that reflect significant inflow. The source of the gaging data was the official USGS Water Supply Papers (Reference 4).

Flow-frequency curves were developed from generalized frequency relationships estimated from a regional-frequency analysis of gaging stations, North Fork Gunnison River near Paonia gage (period of record: 1922-1932); Gunnison River below Gunnison Tunnel gage (Hydrologic Unit 14020002; period of record: 1903 to present day); and Gunnison River near Grand Junction gage (Hydro-

logical Unit 14020005; period of record: October 1894 to December 1895, October 1896 to September 1899, October 1901 to October 1906, October 1916 to current year).

The variation of the quantity of the peak flood within the study reaches was studied. From this analysis, it was concluded that the runoff yield during peak flows from the low lying areas is small. This result supports the conclusion that snowmelt from upper elevations is the major contributor to the peak flows.

Peak discharge-drainage area relationships for Clear Creek and South Clear Creek are shown in Table 1.

TABLE 1 - SUMMARY OF DISCHARGES

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (SQ MILES)	PEAK DISCHARGE (cfs) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
Tomichi Creek					
At Gunnison (Hydrologic Unit 14020003)	1,061.0	1,501	1,904	2,050	2,340
At Parlin	427.0	716	874	924	1,017
Gunnison River					
Near Gunnison (Hydrologic Unit 14020002)	1,012.0	5,762	7,967	8,930	11,256
Near Somerset (Hydrologic Unit 14020004)	531.0	5,600	8,000	9,200	11,300

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the riverine sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals.

Water-surface elevations for the 10-, 50-, 100-, and 500-year floods for the sources studied were computed using the COE HEC-2 step-backwater program (References 1 and 2). Cross sections for Gunnison River and Tomichi Creek were digitized from orthophoto contour maps flown in May 1978 (Reference 6) and May 1980 (Reference 7), coupled with appropriate field verification. North Fork Gunnison River basic input was from field survey data furnished by the Colorado Water Conservation Board (CWCB) and

Gunnison County. All bridges and culverts were measured in the field to obtain elevation data and structural geometry.

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles (Exhibit 1).

Roughness factors (Manning's "n") were determined by field inspection. Ground level photography aided in the selection of roughness factors and orthophoto contour maps were used to determine the limits of each roughness zone (References 6 and 7). Roughness values for the main channel of the streams studied by detailed methods ranged from 0.030 to 0.039 with floodplain values ranging from 0.032 to 0.085 for all floods (Reference 8).

Starting water-surface elevations for the Gunnison River were based on discharge rating curves for the Gunnison River near Gunnison gaging stations and utilization of the slope area method (Reference 2). The starting water-surface elevation for the North Fork Gunnison River was based on information provided by the CWCB and the Commissioners of Gunnison County (Reference 1).

Flood profiles were drawn showing the computed water-surface elevations for floods of the selected recurrence intervals.

The hydraulic analyses for this Flood Insurance Study are based on unobstructed flow. The flood elevations shown on the profiles are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

All elevations are referenced to the National Geodetic Vertical Datum of 1929.

4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

The NFIP encourages State and local governments to adopt sound floodplain management programs. Therefore, each Flood Insurance Study includes a floodplain boundary map designed to assist communities in developing sound floodplain management measures.

4.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1-percent annual chance (100-year) flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent annual chance (500-year) flood is employed to indicate additional areas of flood risk in the community. For each stream studied by detailed methods, the boundaries of the 100- and 500-year floodplain boundaries have been delineated using the flood elevations determined at each cross section.

Between cross sections, the boundaries were interpolated using orthophoto contour maps at a scale of 1:2,400, with a contour interval of 2 feet (References 6 and 7) for Gunnison River and Tomichi Creek, while topographic maps at a scale of 1:6,000 with a 5-foot contour interval were used for the North Fork Gunnison River (Reference 1).

Approximate 100-year floodplain boundaries in some portions of the study area were taken directly from the Flood Hazard Boundary Map (FHBM) for the unincorporated areas of Gunnison County (Reference 9).

The 100 and 500-year floodplain boundaries are shown on the Flood Insurance Rate Map (FIRM) (Exhibit 2). On this map, the 100-year floodplain boundary corresponds to the boundary of the areas of special flood hazards (Zones A, AE), and the 500-year floodplain boundary corresponds to the boundary of areas of moderate flood hazards. In cases where the 100- and 500-year floodplain boundaries are close together, only the 100-year floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above the flood elevations, but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

For the streams studied by approximate methods, only the 100-year floodplain boundary is shown on the (FIRM).

4.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard. For purposes of the NFIP, a floodway is used as a tool to assist local communities in this aspect of floodplain management. Under this concept, the area of the 100-year floodplain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream, plus any adjacent floodplain areas that must be kept free of encroachment so that the 100-year flood can be carried without substantial increases in flood heights. Minimum federal standards limit such increases to 1.0 foot, provided that hazardous velocities are not produced.

Floodways were not calculated for the flooding sources studied.

5.0 INSURANCE APPLICATION

For flood insurance rating purposes, a flood insurance zone designation is assigned to a community based on the results of the engineering analyses. These zones are as follows:

Zone A

Zone A is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no base flood elevations (BFEs) or depths are shown within this zone.

Zone AE

Zone AE is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study by detailed methods. In most instances, whole-foot BFEs derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone X

Zone X is the flood insurance rate zone that corresponds to areas outside the 500-year floodplain, areas within 500-year floodplain, areas of 100-year flooding where average depths are less than 1 foot, areas of 100-year flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 100-year flood by levees. No BFEs or depths are shown within this zone.

6.0 FLOOD INSURANCE RATE MAP

The FIRM is designed for flood insurance and floodplain management applications.

For flood insurance applications, the map designates flood insurance rate zones as described in Section 5.0 and, in the 100-year floodplains that were studied by detailed methods, shows selected whole-foot BFEs or average depths. Insurance agents use the zones and BFEs in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

For floodplain management applications, the map shows by tints, screens, and symbols, the 100- and 500-year floodplains, and the locations of selected cross sections used in the hydraulic analysis.

7.0 OTHER STUDIES

This Flood Insurance Study was prepared by compiling existing hydrologic and hydraulic data, and technical and scientific data prepared by other organizations originally for purposes other than the NFIP. The data were identified as the best available at the time of compilation of this Flood Insurance Study and should depict the general conditions of the flooding sources with relative accuracy. FEMA performed a cursory review and accepted the data as valid for purposes of this Flood Insurance Study and the NFIP. However, if better information is known to exist or has been developed since the date of this Flood Insurance Study, the information should be immediately forwarded to the Chief, Natural and Technological Hazards Division, FEMA, Denver Federal Center, Building 710, Box 25267, Denver, Colorado 80225-0267 for consideration for revision of this Flood Insurance Study.

In preparation for this Flood Insurance Study, information was taken from the 1980 Flood Hazard Identification Report, Hotchkiss to Somerset, Colorado, prepared by the COE, Sacramento District, and the December 1976 Floodplain Information Report, Gunnison River/Tomichi Creek, Gunnison, Colorado, prepared by Engineering Consultants, Inc.

This Flood Insurance Study for the unincorporated areas of Gunnison County is in complete agreement with Flood Insurance Studies for the following communities in Colorado: City of Gunnison, City of Crested Butte, and the unincorporated areas of Pitkin County, Chaffee County, Hinsdale County, Ouray County, Montrose County, Delta County, and Mesa County.

A FHBM has been published for the community (Reference 9). The differences between the FHBM and this Flood Insurance Study are justified due to the more detailed nature of this Flood Insurance Study.

This Flood Insurance Study either supersedes or is compatible with all previous studies published on streams studied in this Flood Insurance Study and should be considered authoritative for the purpose of the NFIP.

8.0 LOCATION OF DATA

Information concerning the pertinent data used in the preparation of this Flood Insurance Study can be obtained by contacting the Chief, Natural and Technological Hazards Division, FEMA, Denver Federal Center, Building 710, Box 25267, Denver, Colorado 80225-0267.

9.0 BIBLIOGRAPHY AND REFERENCES

1. U.S. Army Corps of Engineers (Sacramento District), Flood Hazard Information Report, North Fork Gunnison River, Hotchkiss to Somerset, Colorado, 1980.

2. Engineering Consultants, Inc., Floodplain Information Report, Gunnison River/Tomichi Creek, Gunnison, Colorado, December 1976.

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4. U.S. Geological Survey, Magnitude and Frequency of Floods in the United States, Part 9: Colorado River Basin, USGS Water Supply Paper 1683.

5. United States Water Resources Council, Guidelines for Determining Flood Flow Frequency, Bulletin No. 17, 1976.

6. Delta Aerial Survey, Orthophoto Contour Maps, Gunnison, Colorado, Scale 1:2,400, Contour Interval 2 feet, May 1978.

7. Landmark Mapping, Orthophoto Contour Maps, Gunnison, Colorado, Scale 1:2,400, Contour Interval 2 feet, May 1980.

8. Federal Emergency Management Agency, Flood Insurance Study, City of Gunnison, Colorado, November 16, 1983.

9. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Map, Gunnison County, Colorado, Unincorporated Area, Scale 1:2,000, January 3, 1975, revised August 9, 1977.

   U.S. Department of the Army, Corps of Engineers, Hydrologic Engineering Center, HEC-2 Water-Surface Profiles, Davis, California, 1977.

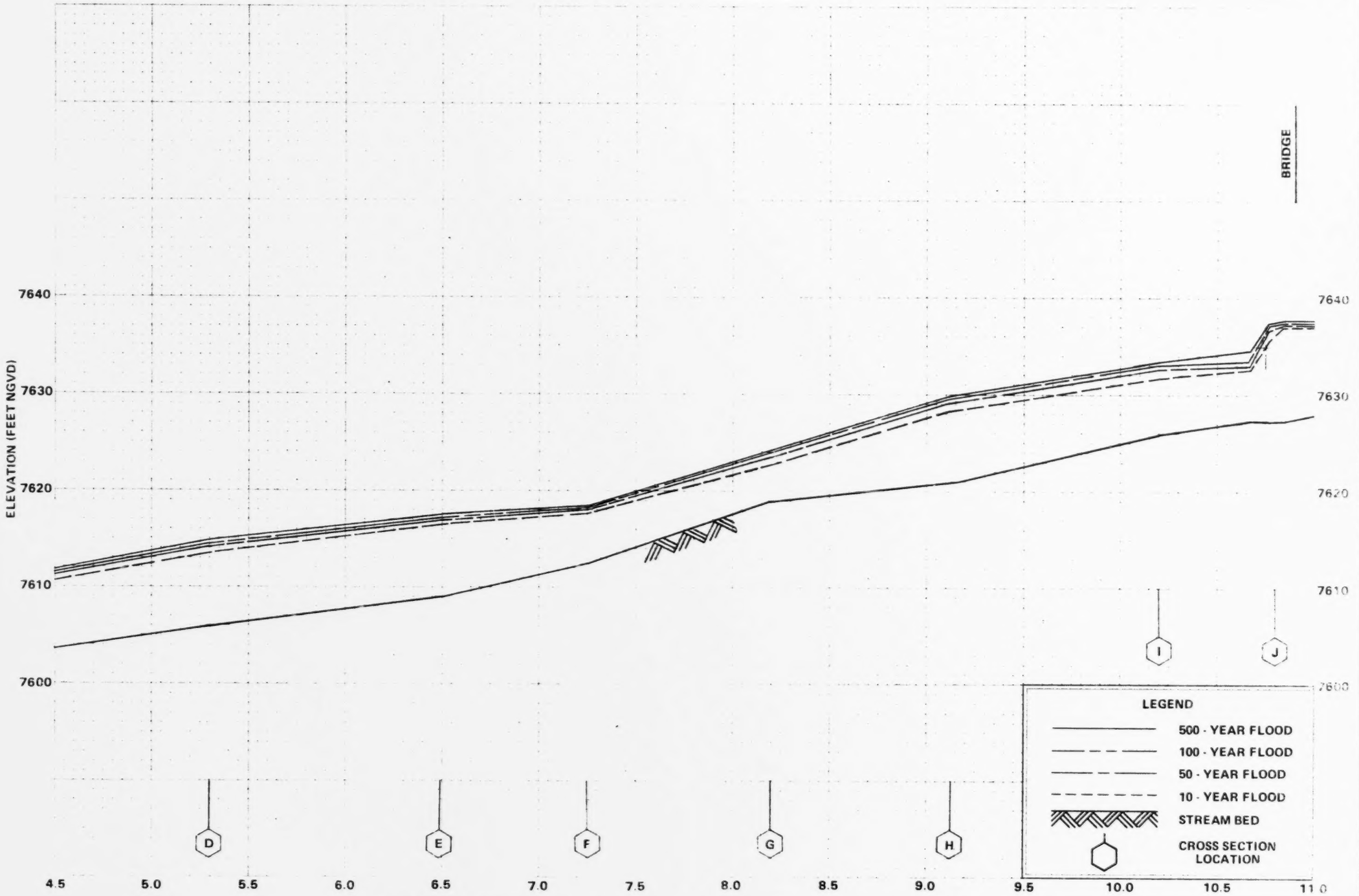
FLOOD PROFILES

TOMICHI CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

GUNNISON COUNTY, CO
(UNINCORPORATED AREAS)

01P



FLOOD PROFILES

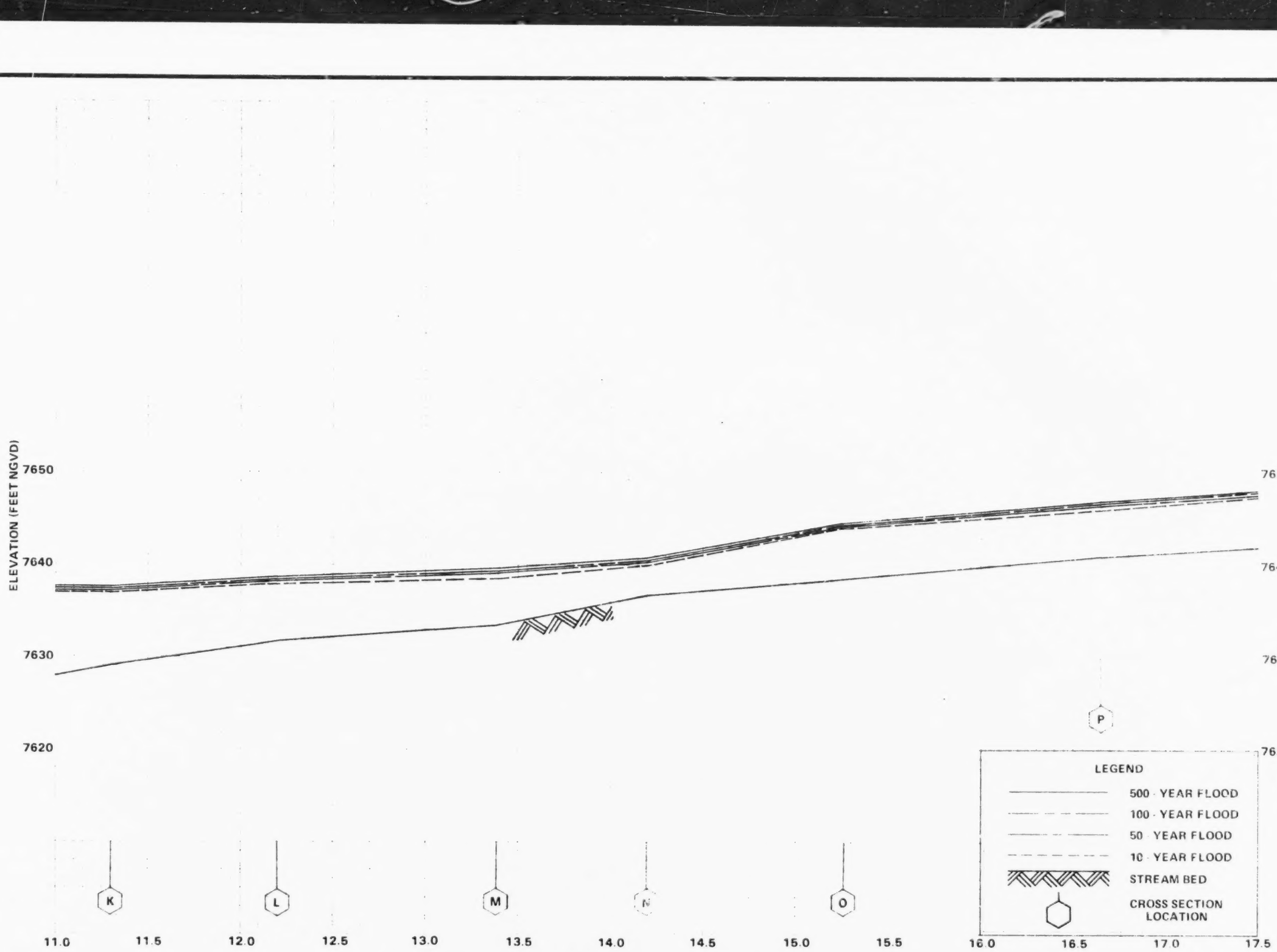
TOMICHI CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

GUNNISON COUNTY, CO

(UNINCORPORATED AREAS)

02P



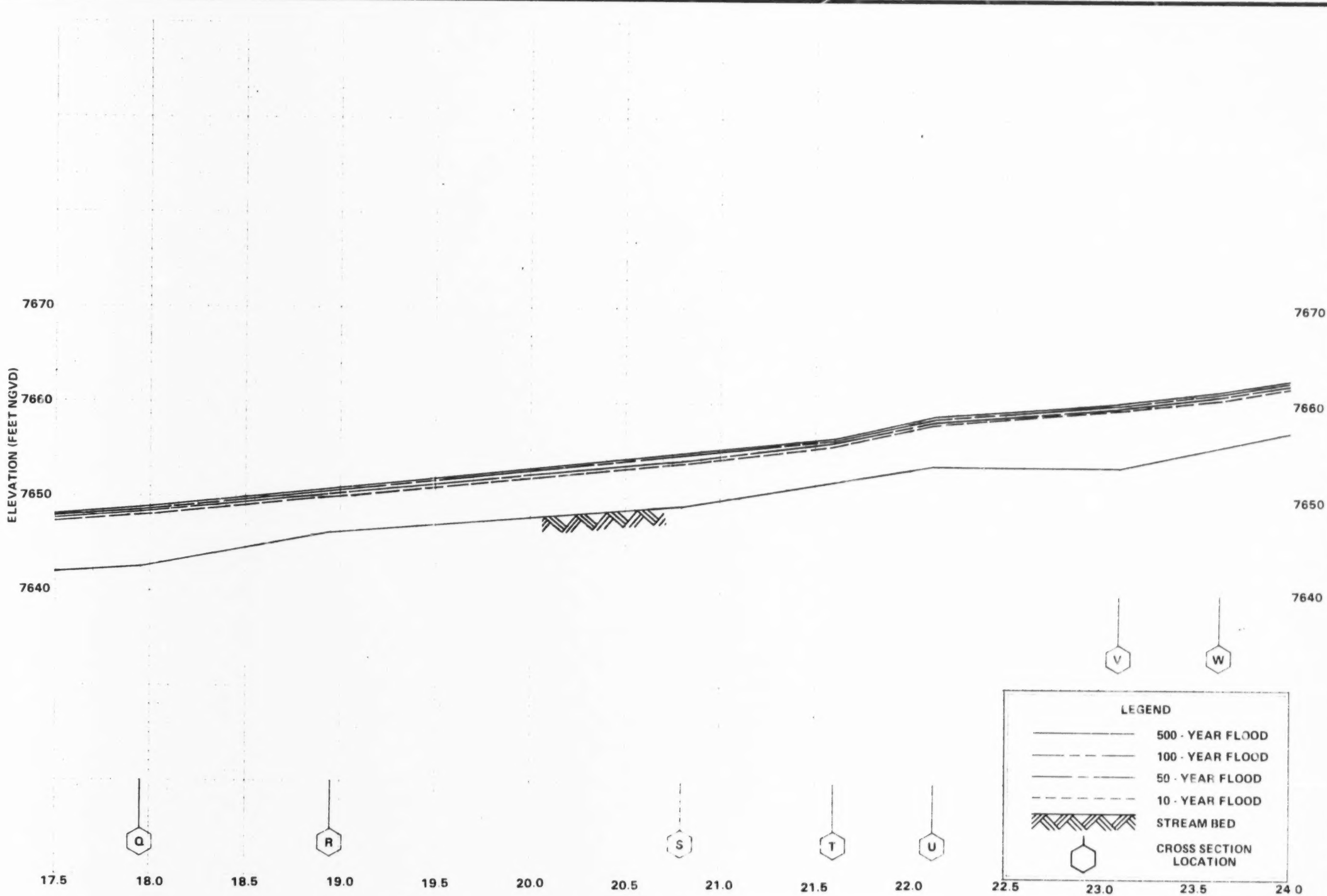
FLOOD PROFILES

TOMICHI CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

GUNNISON COUNTY, CO
(UNINCORPORATED AREAS)

03P



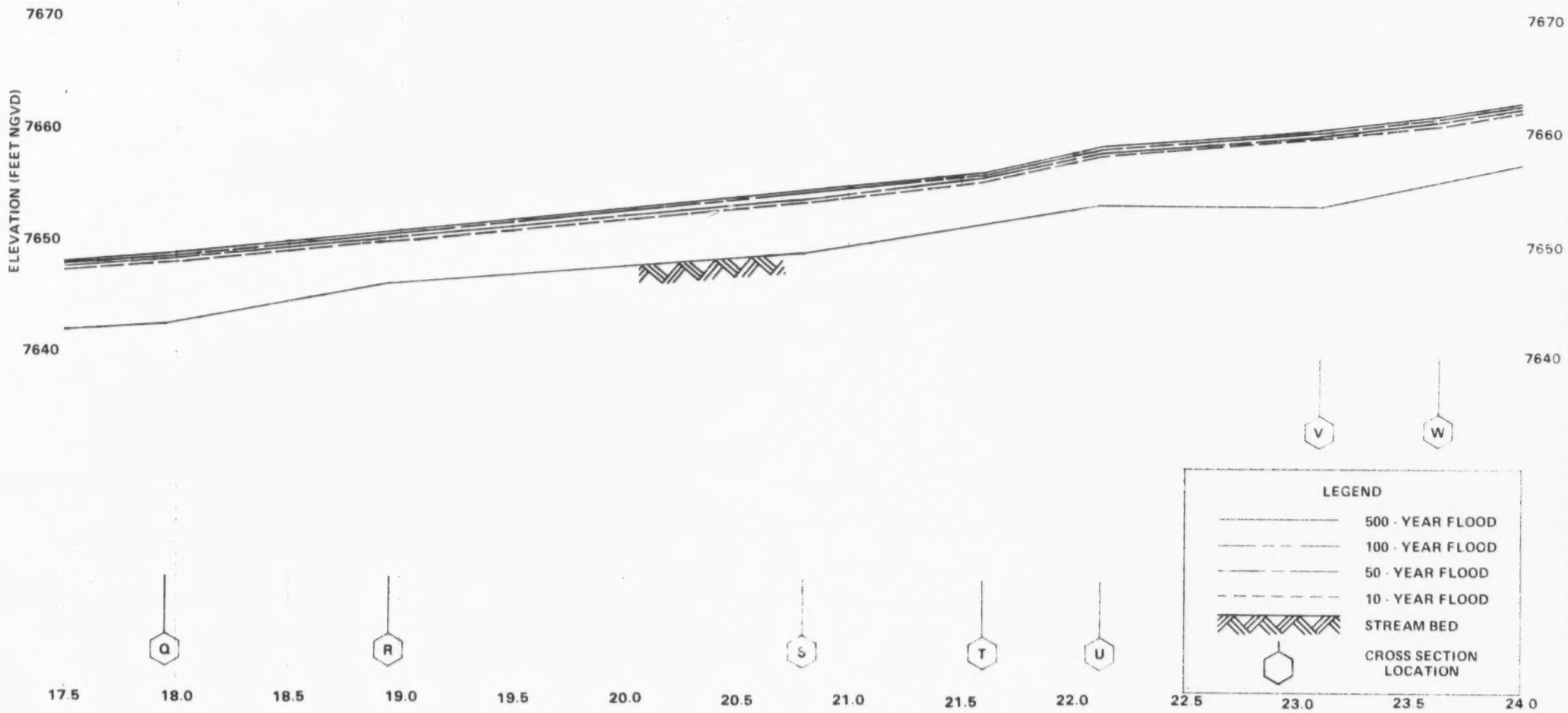
FLOOD PROFILES

TOMICHI CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

GUNNISON COUNTY, CO
(UNINCORPORATED AREAS)

04P



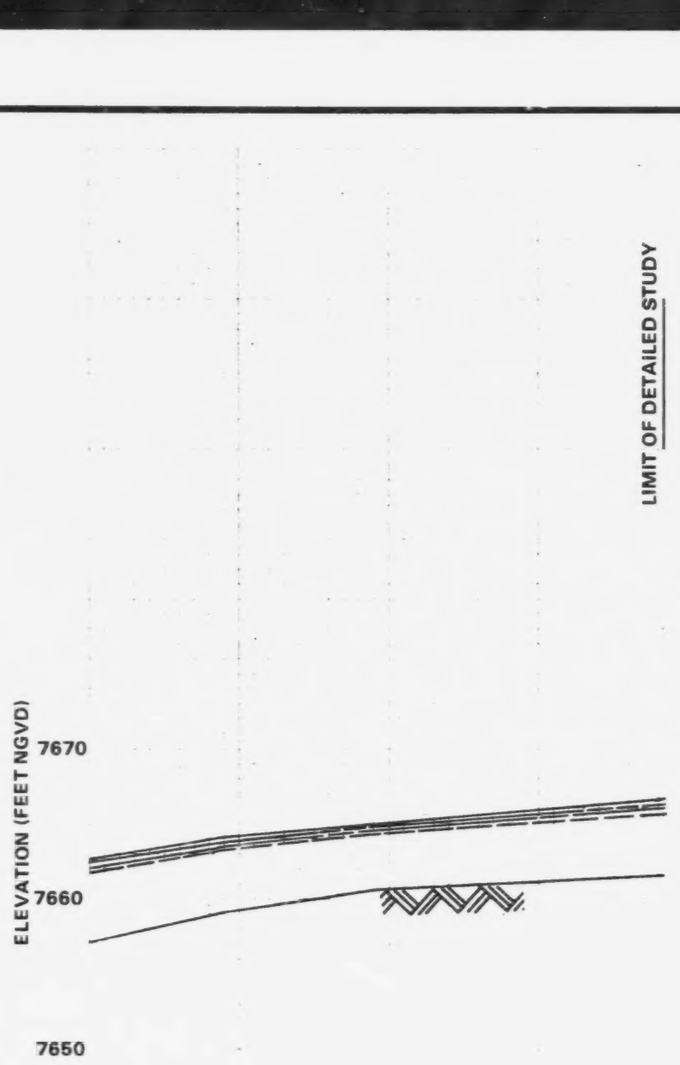
FLOOD PROFILES

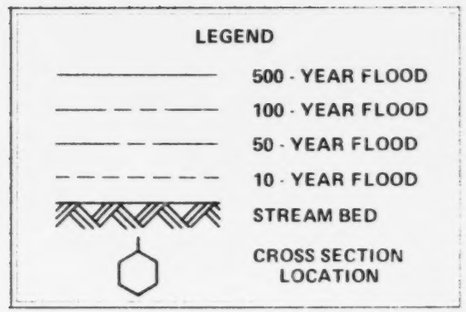
TOMICHI CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

GUNNISON COUNTY, CO
(UNINCORPORATED AREAS)

04P





FLOOD PROFILES

TOMICHI CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

GUNNISON COUNTY, CO
(UNINCORPORATED AREAS)

05P

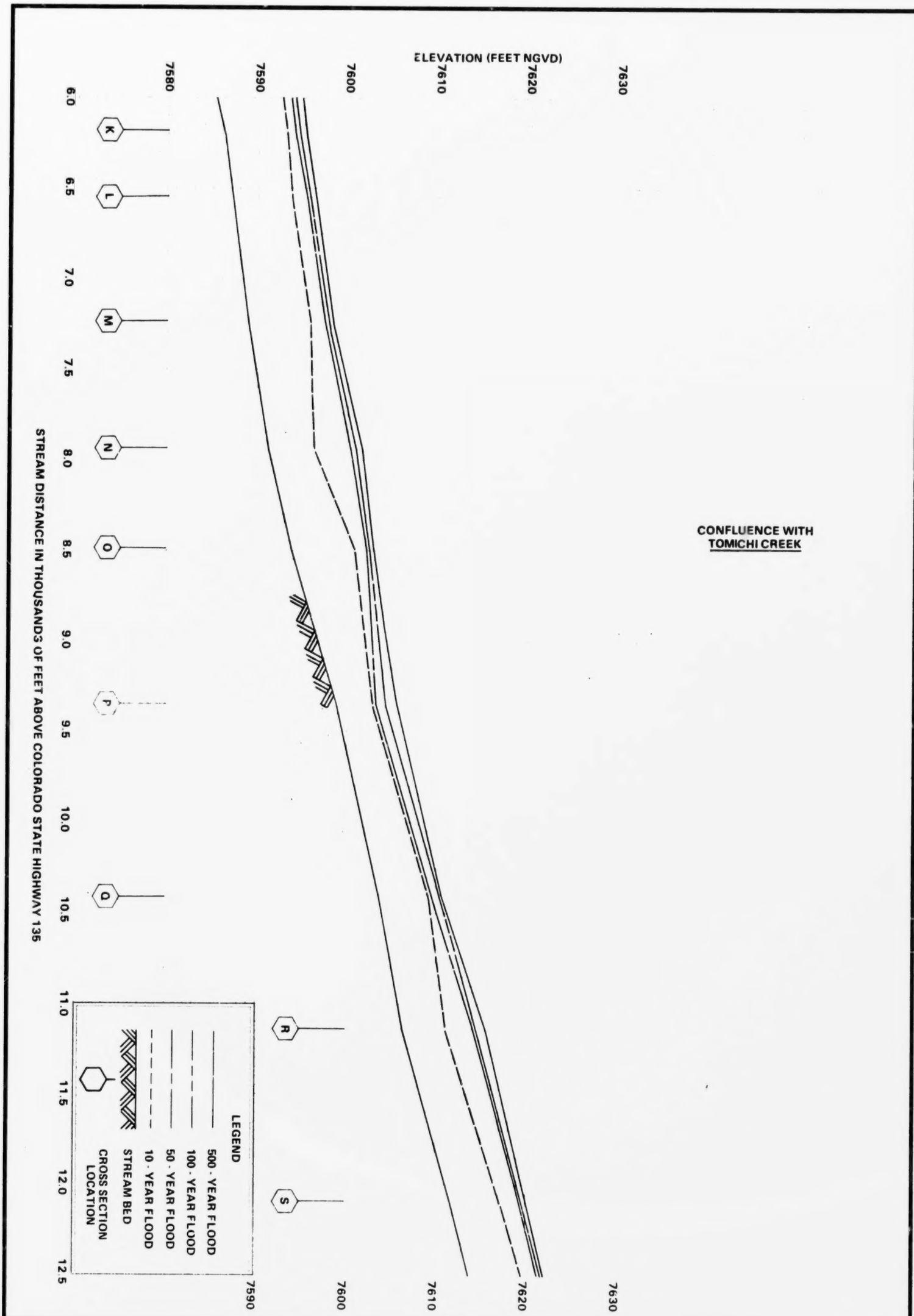
FLOOD PROFILES

GUNNISON RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

GUNNISON COUNTY, CO
(UNINCORPORATED AREAS)

06P



FEDERAL EMERGENCY MANAGEMENT AGENCY

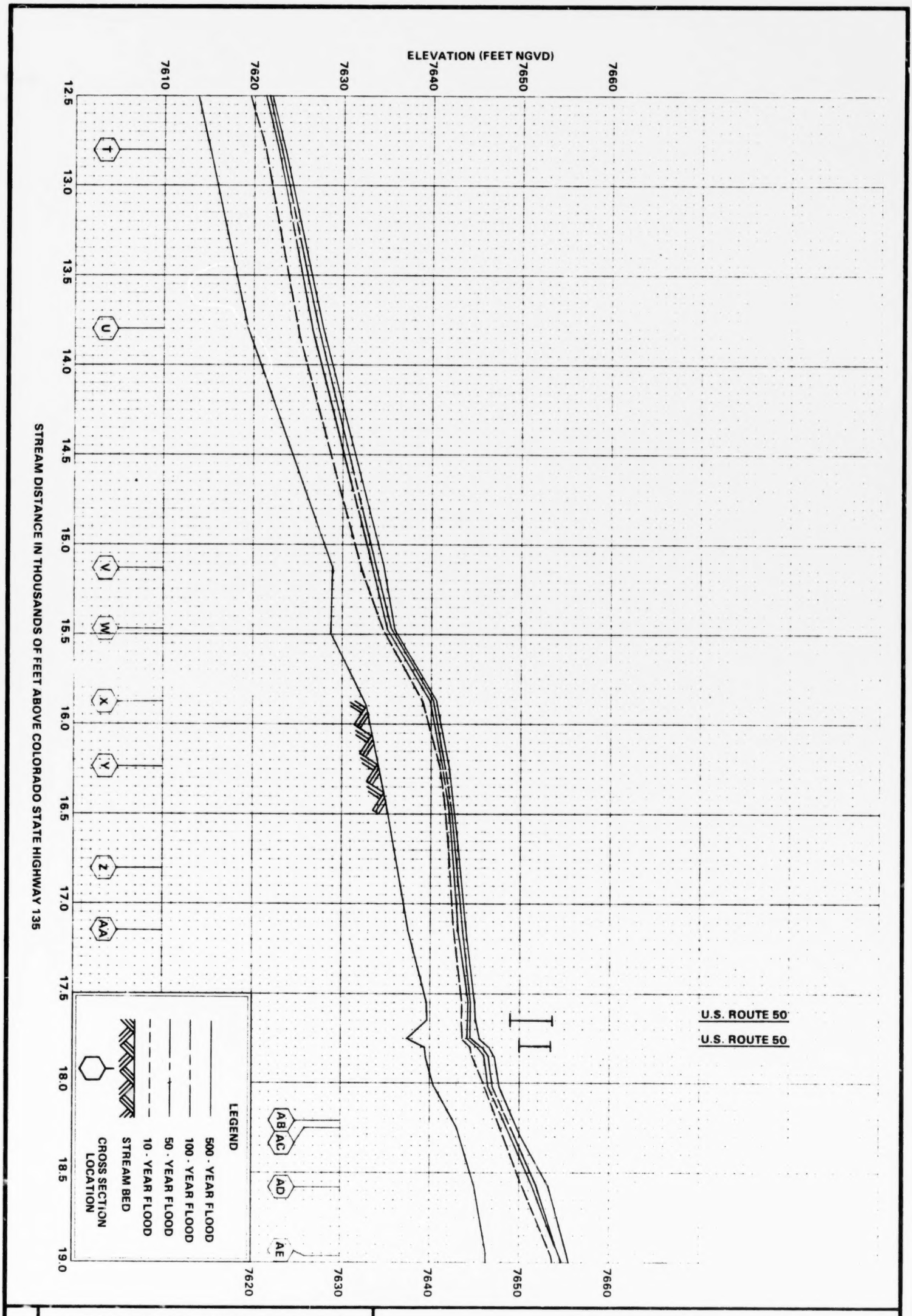
GUNNISON COUNTY, CO
(UNINCORPORATED AREAS)

FLOOD PROFILES

GUNNISON RIVER

07P

21



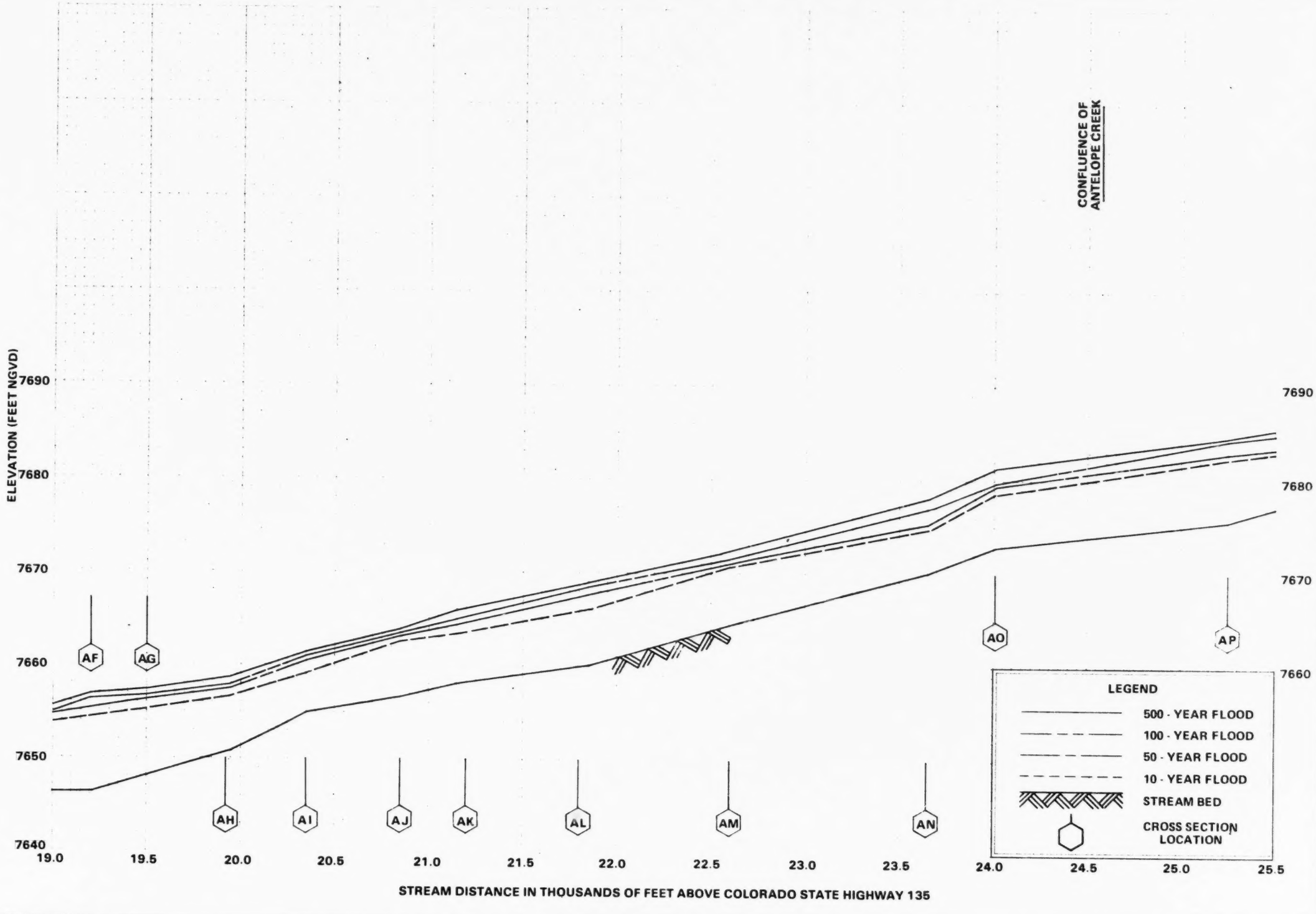
FEDERAL EMERGENCY MANAGEMENT AGENCY

GUNNISON COUNTY, CO
(UNINCORPORATED AREAS)

FLOOD PROFILES

GUNNISON RIVER

08P



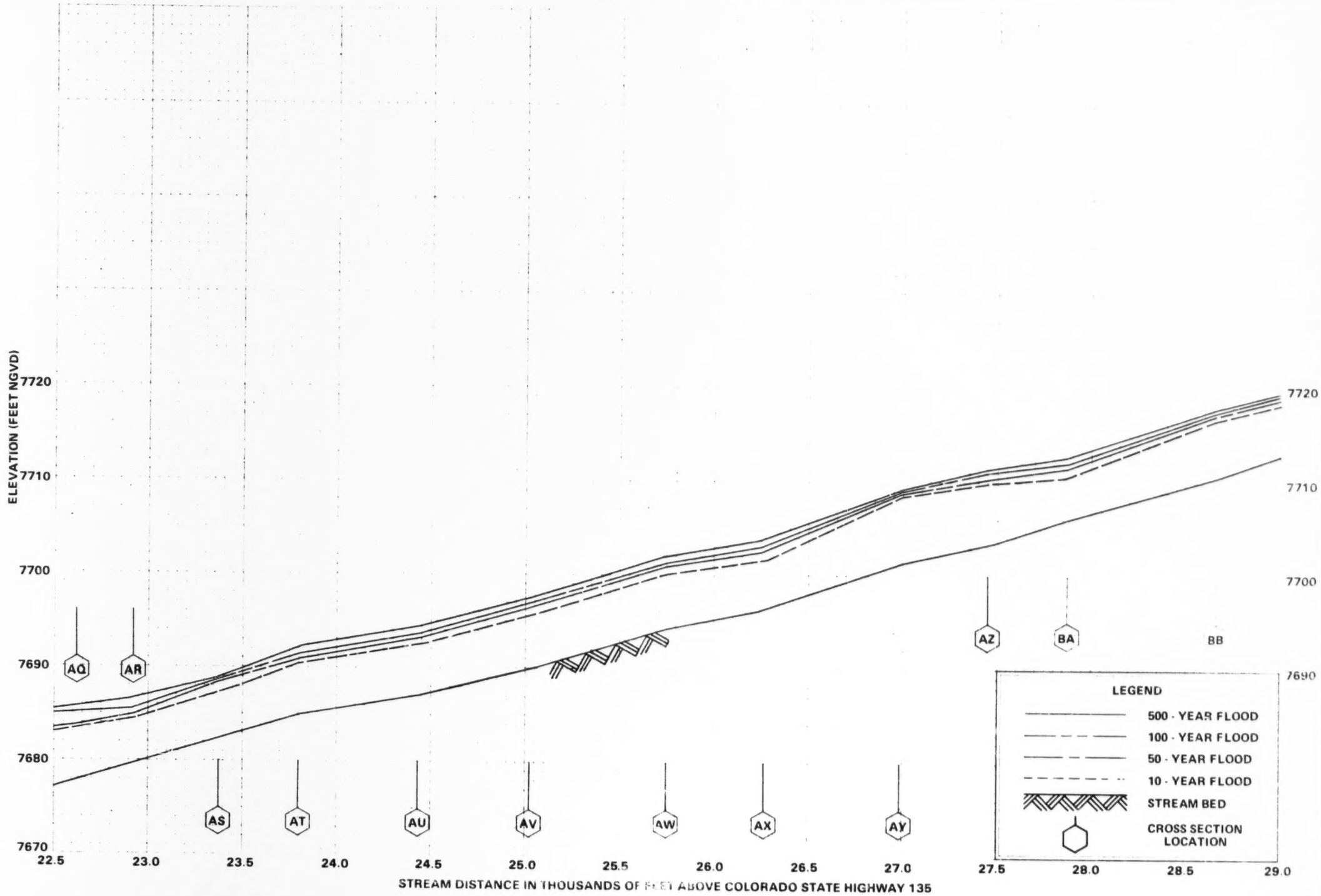
FLOOD PROFILES

GUNNISON RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

GUNNISON COUNTY, CO
(UNINCORPORATED AREAS)

09P



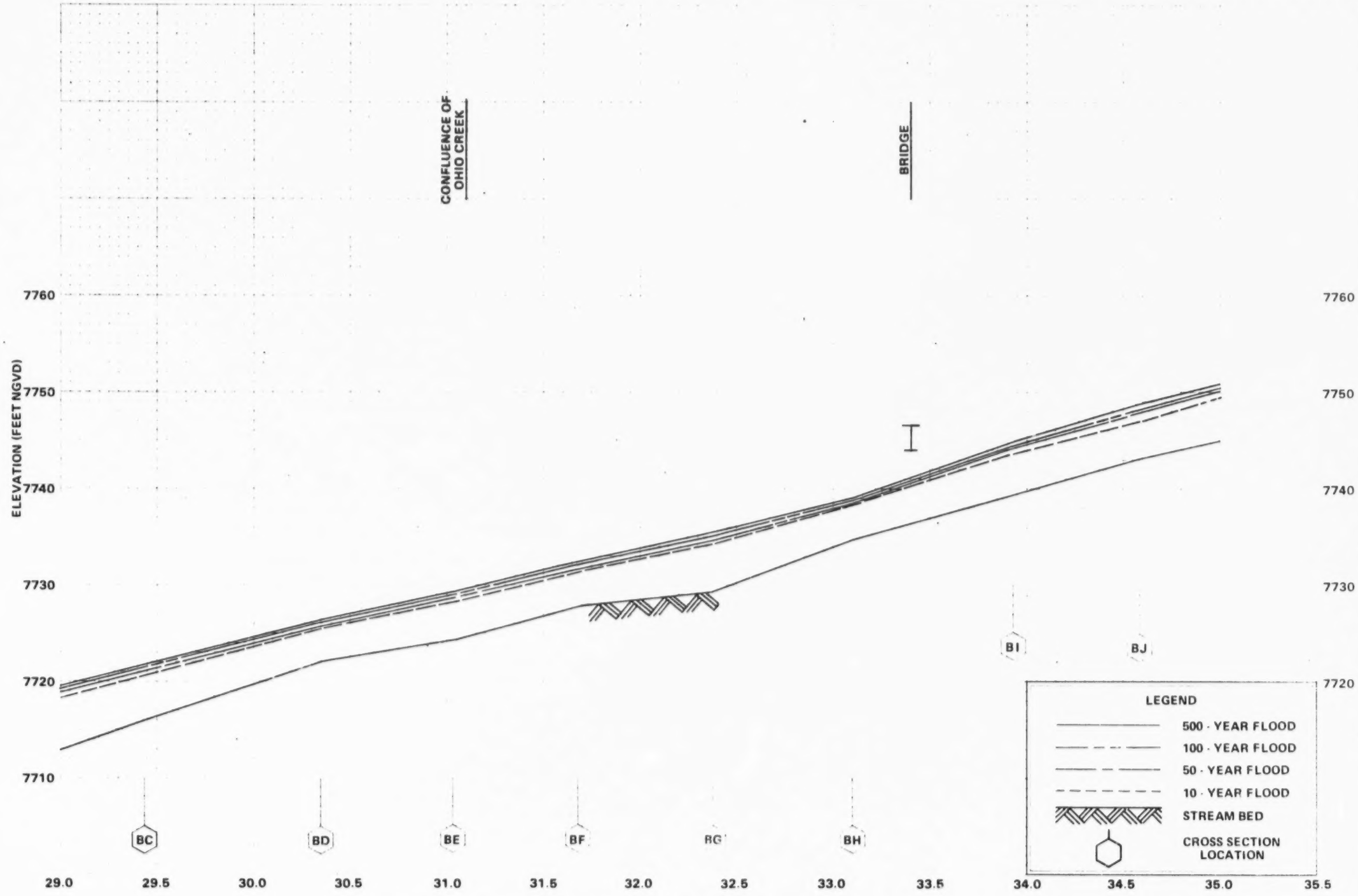
FLOOD PROFILES

GUNNISON RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

GUNNISON COUNTY, CO
(UNINCORPORATED AREAS)

10P



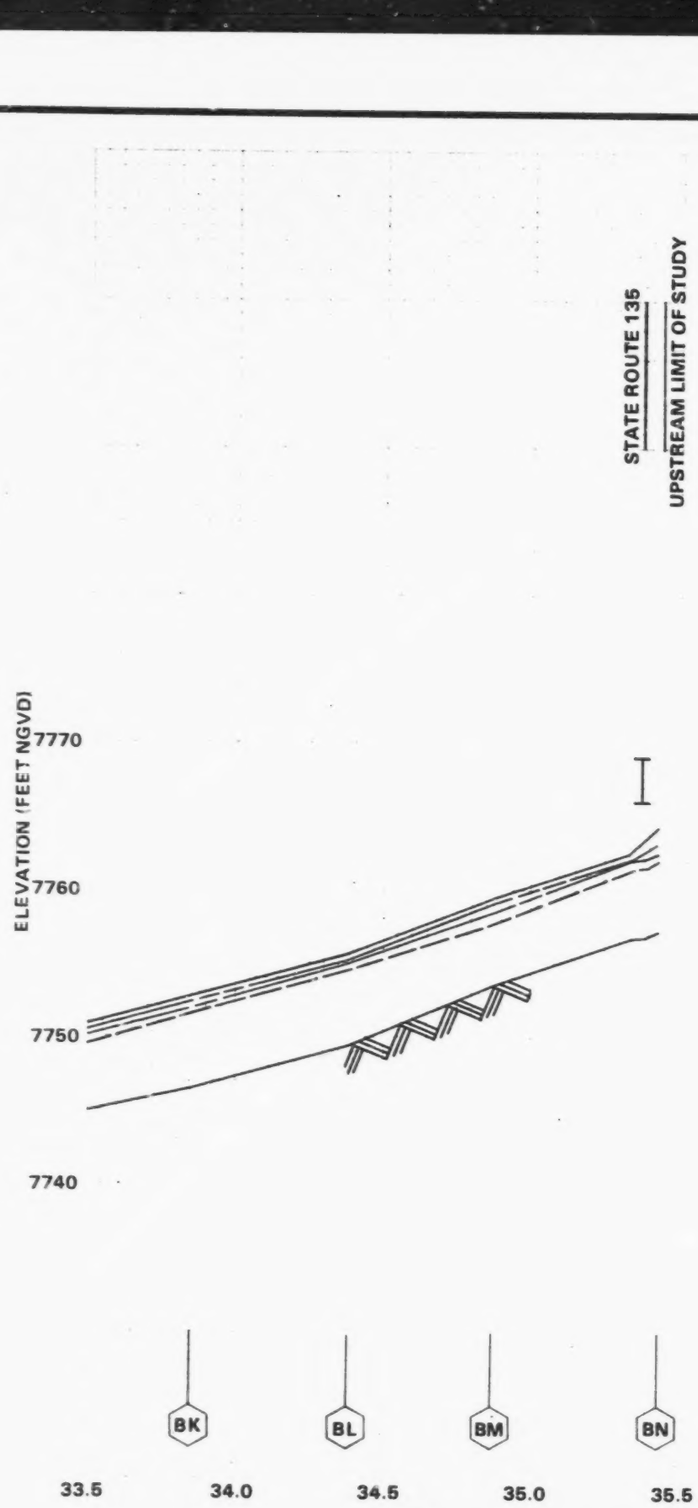
FLOOD PROFILES

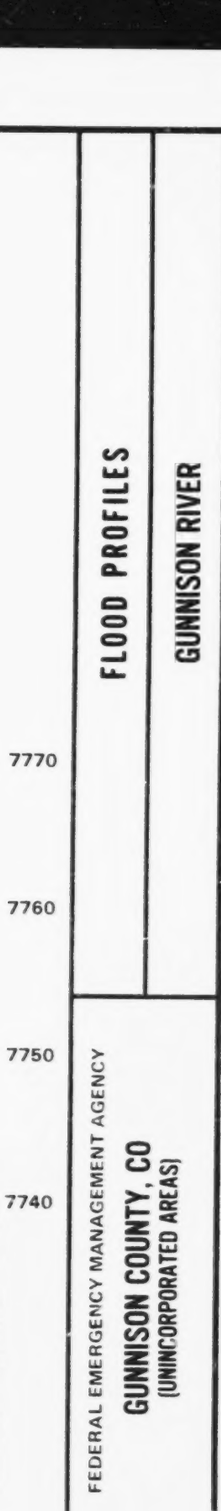
GUNNISON RIVER

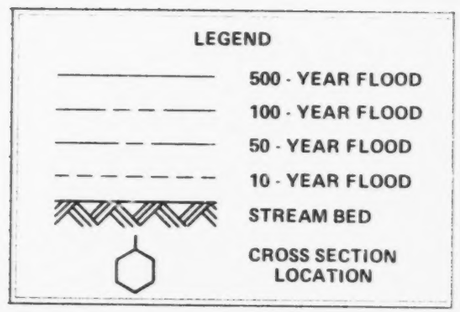
FEDERAL EMERGENCY MANAGEMENT AGENCY

GUNNISON COUNTY, CO
(UNINCORPORATED AREAS)

11P







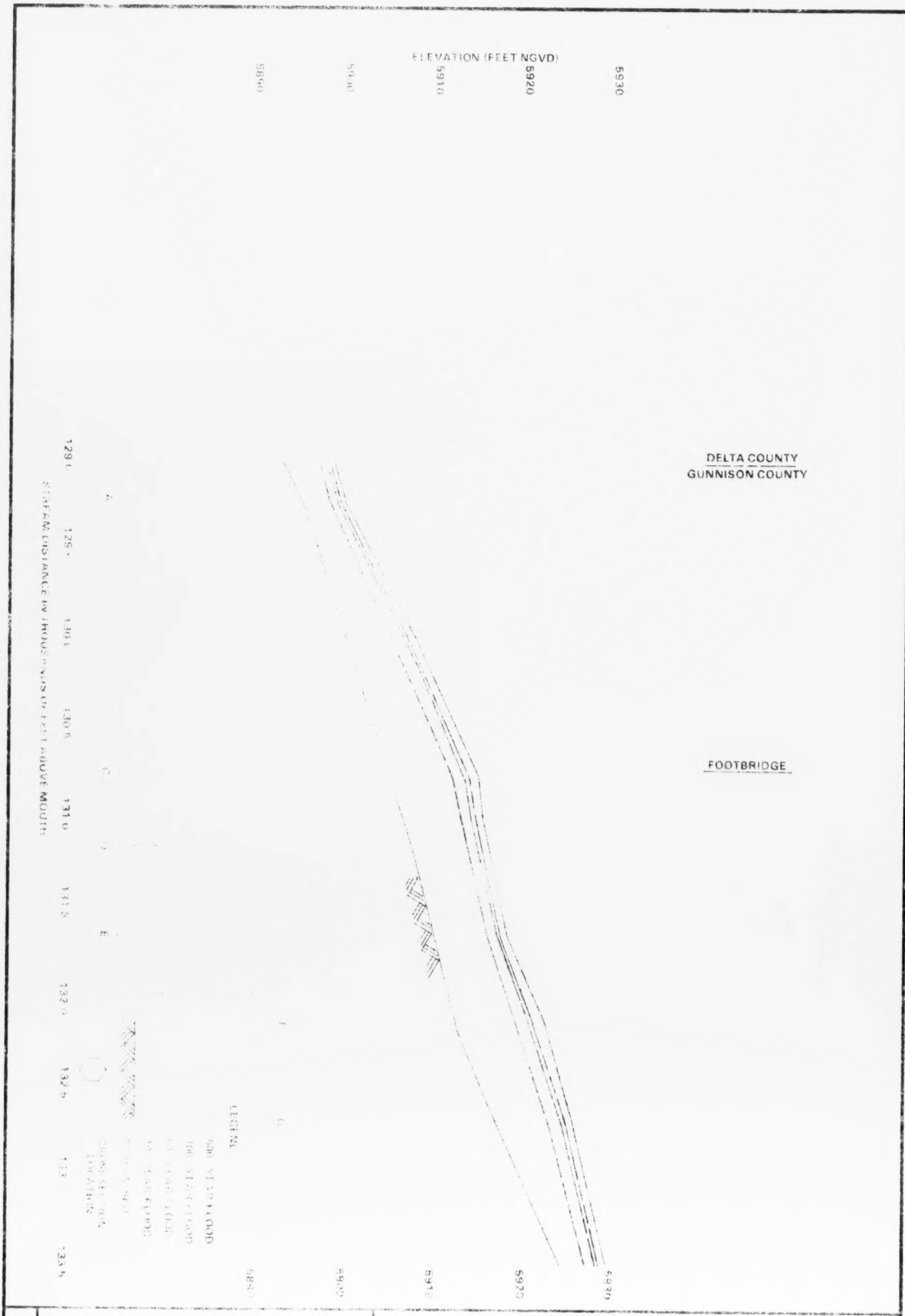
FLOOD PROFILES

GUNNISON RIVER

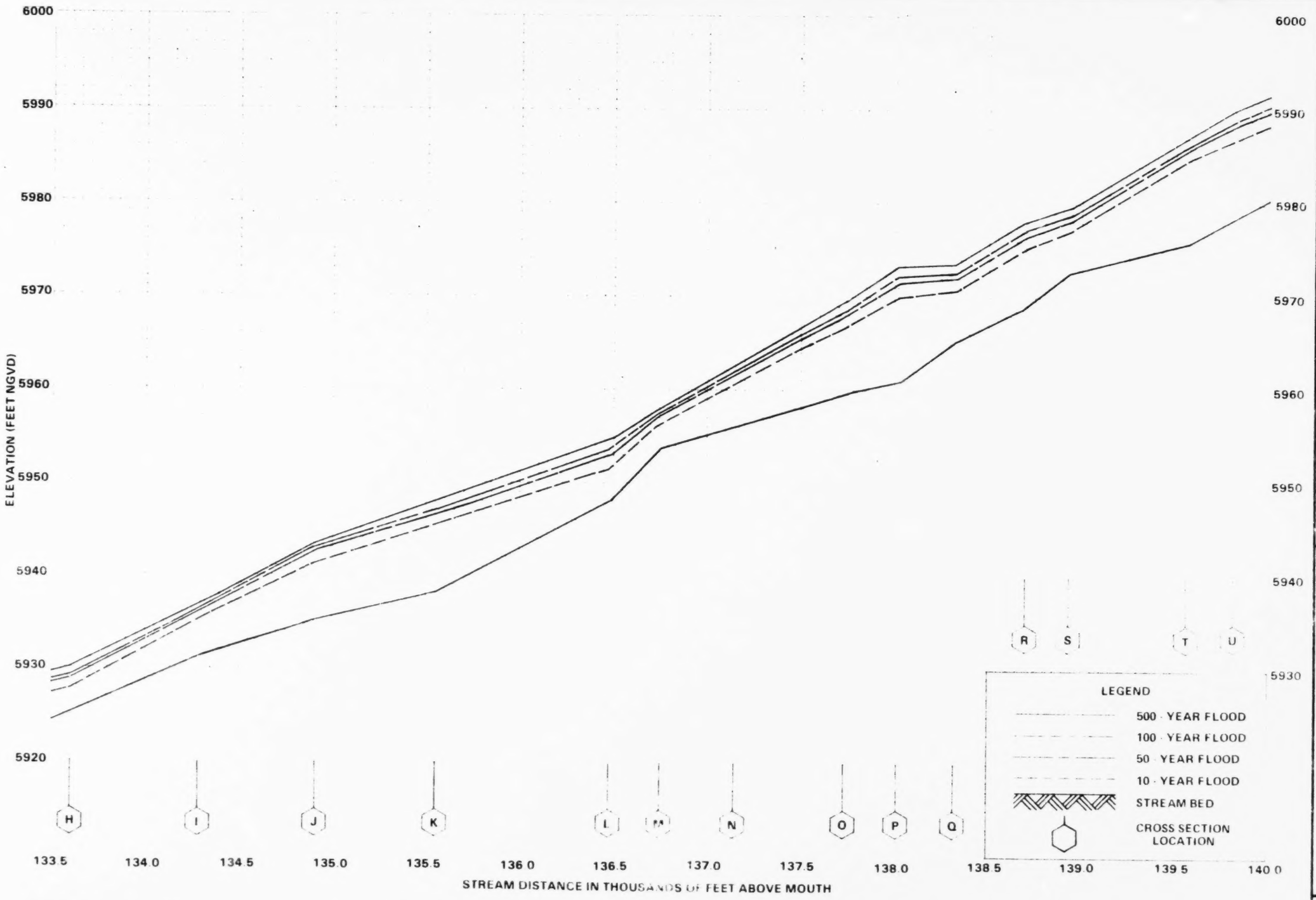
FEDERAL EMERGENCY MANAGEMENT AGENCY

GUNNISON COUNTY, CO
(UNINCORPORATED AREAS)

12P



13P	FEDERAL EMERGENCY MANAGEMENT AGENCY GUNNISON COUNTY, CO (UNINCORPORATED AREAS)	FLOOD PROFILES NORTH FORK GUNNISON RIVER



FLOOD PROFILES

NORTH FORK GUNNISON RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

GUNNISON COUNTY, CO
(UNINCORPORATED AREAS)

14P

28

FLOOD PROFILES

NORTH FORK GUNNISON RIVER

GUNNISON COUNTY, CO
(UNINCORPORATED AREAS)

15P